

A NEW *BOLBODIMYIA* FROM MEXICO'S CENTRAL PLATEAU

(Diptera: Tabanidae)

M.A. Tidwell

Apartado Aereo 5390 Cali, Colombia

and

Cornelius B. Philip

California Academy of Sciences San Francisco 94118

Three species of the New World genus *Bolbodimyia* are known presently to occur in Mexico including *B. atrata* (Hine) from west central Mexico and Arizona, *B. dampfi* Philip from southern Mexico and Guatemala and the more recently described *B. lampros* Philip and Floyd (1974) from Chihuahua.

An adult female of a fourth species, distinct from those included in Stone's (1954) and Fairchild's (1964) papers, was reared from a larva collected in El Chico National Park on Mexico's Central Plateau approximately 100 Km northeast of Mexico City. The description of this female and the pupa is given below.

We are pleased to name this species for the collector, Luis Bermudez, who with his wife Ema, was of special assistance to the senior author during his stay in Mexico.

***Bolbodimyia bermudezi*, new species**

A robust, entirely black-bodied species with black vestiture except for conspicuous pre-alar patches of silky pale yellow hairs, face and genae golden orange, and wing subhyaline with a sharply contrasting black costal border nearly to apex. Scapes shining black, expanded ventrally.

Holotype female, 15mm in length. Head flattened, a little wider than thorax. Eyes pilose, background color dark green with lower 2/3 containing numerous shining reddish irregular spots. Frons (Fig. 1a) nearly bare, height slightly more than 2 times basal width, blackish, expanded below, with a shining black, swollen basal callosity filling slightly less than the lower third and scarcely connected on the lateral margins to a broad black median callus above. Lateral margins of frons, area between basal and median calli and upper margin of median callus with fine gray pollinosity. Lateral margins of frons from upper portion of basal callus to vertex with reclining black hairs directed mesally. No ocelli. Subcallus bare, shining black, inflated. Face and genae golden orange pollinose with concolorous hairs. Antennae (Fig. 1b) blackish with basal portion of plate somewhat lighter in color; scape shining black and swollen below with numerous stout bristles; pedicel with a dorsal tooth; plate approximately 1/4 longer than style. Palpi (Fig. 1c) black with concolorous hairs.

Body entirely subshining black with black hairs except for pre-alar patches of pale yellow hairs. Legs black including tarsi, tibiae not noticeably swollen, hind tibial fringes black, not accentuated. Wing (Fig. 1d) subhyaline with contrasting black costal border a little more expanded posteriorly than in related *B. dampfi*, reaching vein R 4 + 5, and apical hyaline crescent smaller. Vein R4 strongly curved forward. Basicostas bare. Halteres dark brown.

Type locality. — MEXICO: Hidalgo, El Chico National Park, approximately 20 Km north of Pachuca, 8 June 1974. Luis and Ema Bermudez. Holotype in the California Academy of Sciences. No. 12785. Collected as larva.

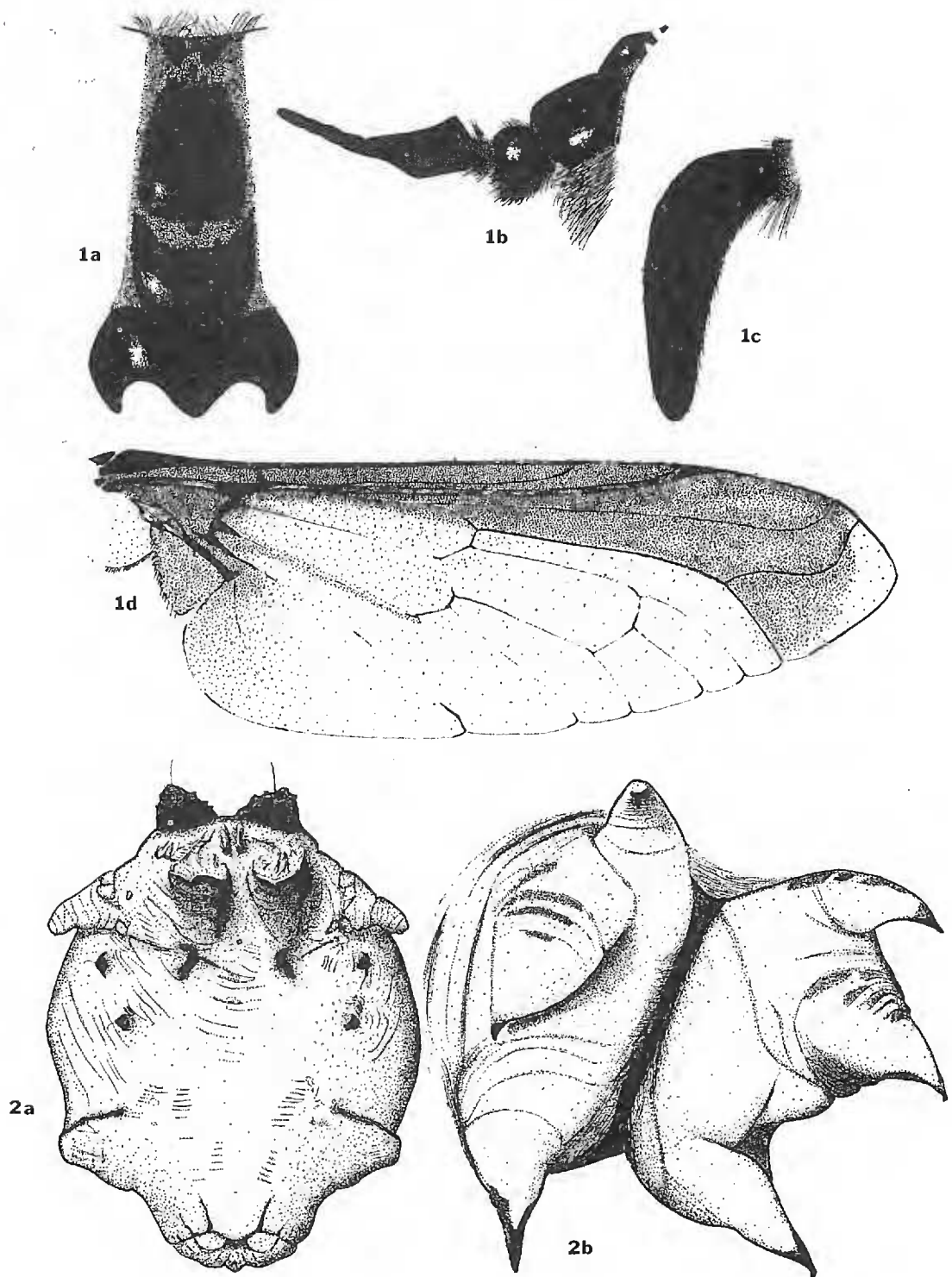


Fig. 1. *Bolbodimyia bermudezi*, female. a. Frons. b. Antenna. c. Palp. d. Wing. Fig. 2. Pupa of *B. bermudezi*. a. Frontal plate. b. Terminal aster.

The adult female is readily differentiated from females of *B. dampfi* by the distinctly pilose eyes, presence of the golden-orange pilosity of the face, the lighter colored pale yellow pre-alar patches not extending on to the pleura, tarsi basally and antennal plates darker; the first basal cell (cell R) of wing mostly subhyaline and lacking the complete infuscation as found in *B. dampfi*.

Critical differences preclude this being the unknown, possibly dichromatic female of *B. lampros* including black not reddish flagella, prealar lobes but not upper pleura yellow, and wing infuscation restricted to costal areas in contrast to remainder of wing.

The larva of *B. bermudezi* was collected in moss on rocks in running water. The collectors reported that the substrate was made up of an association of mosses, *Polytrichum* sp.; liverworts, *Marchantia* sp.; and Cieraceae, *Cyperus* spp. The principal trees and plants in the area included fir, *Abies religiosa*; Umbelliferae including *Hydrocotyle ranunculoides*; and various Compositae.

The adult emerged 2 March 1975. The pupal case was preserved in excellent condition; however, the larval exuvium was not recovered.

Pupa. — Length 21 mm, frontal plate (Fig. 2a) with area between antennal sheaths strongly inflated; antennal ridges prominent, separated by a median cleft; height of ridge at cleft approximately 0.5 mm; each ridge subdivided by an indentation, the median portion larger with a heavily sclerotized, unusually pointed crest; frontal ridges distinct; callus tubercles prominent, 0.4 mm high on lateral margins tapering mesally; antennal sheaths reaching well beyond epicranial suture; anterior and posterior orbital tubercles prominent, the posterior tubercles more so. Thoracic spiracles 0.4 mm, elongate C-shaped. $\frac{1}{2}$ Fringes of abdominal segments 2-7 with well-developed spines, progressively longer on posterior segments, length of spines on dorsum generally about 0.4 mm long on segment 2, grading to about 1.0 mm on segment 7; shorter spines present on all segments usually situated slightly anterior to longer spines. Terminal segment (Fig. 2b) with dorsal and lateral combs continuous totaling 18 and 20 spines including minute spines; ventral combs with 7 and 10 spines.

The pupal case was compared with 2 female pupal cases of *B. atrata* from Arizona provided through the courtesy of Dr. John F. Burger, University of New Hampshire. *B. bermudezi* is easily separated by having the area between the antennal sheaths more inflated and antennal ridges at cleft nearly twice the height of those in *B. atrata*. Frontal ridges present and well developed; callus and orbital tubercles prominent with longer spines.

The immature stages of *B. atrata* will be presented in a paper by Burger in press at this writing.

Literature Cited

- Fairchild G.B. 1964. Notes on Neotropical Tabanidae (Diptera) IV. Further new species and new records for Panama. J. Med. Entomol., 1:169-185.
- Philip C.B. and L. Floyd. 1974. New North American Tabanidae XXI. Another new *Bolbodimyia* from Mexico. Pan-Pacific Entomol., 50: 145-147.
- Stone, A. 1954. The genus *Bolbodimyia* Bigot (Tabanidae, Diptera). Ann. Entomol. Soc. Amer., 47: 248-254.